

SOUTH VIEW OF GUILDHALL, LONDON.

"This view was taken previous to the entire demolition of the Porch of entrance into the hall" (*inscription on drawing*).

## LONDON TOWN-PLANNING SCHEMES IN 1666.

By SYDNEY PERKS [F.], F.S.A., F.S.I.

Read before the Royal Institute of British Architects, Monday, 15th December, 1919.

IN a pamphlet published in 1667\* it is stated that the Great Fire of London started on the 2nd September and continued burning until the 6th September, but it seems impossible to get the exact date when the limit of the damage was reached. This is not to be wondered at when things were in such a chaotic state. The *London Gazette* of 15th September 1666 also states that the fire was arrested on 6th September, but that it broke out again on the evening of that day. John Evelyn states in his diary that he submitted his plan to the King on 13th September, and in his letter of 27th September he states he did so "within two days after the conflagration"; that means that the fire was arrested about 11th September. He confirms that date in a letter of 22nd December to Mr. Oldenburg, stating that the discourse "was finish'd within two or three days after the Incendium." On 7th September Evelyn states: "Nor was I yet able to pass through any of the narrower streetes, but kept the widest; the ground and air, smoke and fiery vapour, continu'd so intense that my haire was almost sing'd and my feete unsufferably surbated." Again, a Dutch plan which I refer to later states that the fire was burning as late as 16th September; indeed, it smouldered for months.

It is also interesting to note by a comparison of their plans that Evelyn and Wren do not agree as to the limit of the damage by the fire.

There was soon great activity by many men to produce plans for rebuilding the City: so quickly were the plans produced that it is obvious they could not have had much consideration. The rush and bustle was quite suggestive of American methods of to-day. Dr. Oldenburg, the secretary of the Royal Society, in a letter to Mr. Boyle dated 18th September 1666 wrote as follows:—

. . . Dr. Wren has since my last drawn a modell for a new city, and presented it to the king, who

\* "A true and faithful account of the several informations exhibited to the committee appointed by Parliament to inquire into the late dreadful burning of the City of London."

produced it himself before his council, and manifested much approbation of it. I was yesterday morning with the doctor and saw the modell; which, me thinks, does so well provide for security, conveniency and beauty that I can see nothing wanting as to those three maine articles; but whether it has consulted with the populousness of a great city, and whether reason of state would have that consulted with, is a quære to me. I then told the doctor, that if I had an opportunity to speake with him sooner I should have suggested to him that such a modell, contrived by him, and reviewed and approved by the R. Society, or a committee thereof, before it had come to the view of his Majesty, would have given the Society a name, and made it popular, and availed not a little to silence those who aske continually, What have they done? He answered that he had been so pressed to hasten it, before other desseins came in, that he could not possibly consult the Society about it.—*British Museum, Add. MS. 6193*, pp. 163-164.

But the best evidence of his anxiety to be first in the field is shown in a letter by John Evelyn dated on 27th September 1666. He wrote: "Every body brings in his idea: amongst the rest, I presented his majesty my own conceptions, with a discourse annexed. It was the second that was seen, within two days after the conflagration; but Dr. Wren had got the start of me." If I were preaching a sermon I should take as my text these words: "Dr. Wren got the start of me."

Hooke lost his chance by approaching the Royal Society on 19th September and the Corporation on 21st September, the idea being that he should approach the king stating his plan was approved by both the Corporation and the Royal Society. The Journal of the Court of Common Council of 21st September 1666 contains the following entry: "Mr. Hooke having upon M<sup>on</sup> and encouragement of the Court prepared and presented an exquisite Modell or Draught for rebuilding of this City, This Court doth declare their good acceptance of the same." Wren was far too good a business man to waste time with public or scientific authorities and was first in the field, and the king had approved his plan by 10th September (see *infra*).

I think if we regard Wren as an exceedingly able business man, ambitious, and determined to be the architect for as many large buildings as possible, we shall get a clue to his method of work. Architects have so much admiration for the great genius of Wren that his plan has received unlimited praise, but very little detailed criticism. It has been accepted as a great scheme for which we should be thankful. We have been so delighted by the fact that the main roads would have been ninety feet wide, which is about the width of Regent Street, that further criticism has been considered unnecessary.

I went to Oxford to see the original drawings, which are preserved in the Library of All Souls' College, and these plans are reproduced by kind consent of the College authorities.

On the first plan upon which Wren worked the roads outside the fire area are shown in the ordinary way; inside the fire boundary there are single lines indicating only the principal streets, such as Newgate Street, Cheapside, Watling Street, Cannon Street and Thames Street. St. Paul's Cathedral, the Royal Exchange, the Guildhall, and a few other buildings are indicated.

His second plan has been cut out with a pair of scissors or a sharp knife, and Fig. No. 1 is the final scheme. It is 2 feet 3 inches by 1 foot 2 inches and very carefully drawn.

His first plan differs from Fig. No. 3. Apparently from the first Wren meant to rebuild St. Paul's Cathedral, for although no plan of the building was necessary for his map, yet he produces two distinct plans for a new building. This suggests that while he was rushing out his plan to get ahead of his competitors the great chance of rebuilding St. Paul's Cathedral was ever constant in his mind.

Wren dealt with the problem in a drastic manner: he swept away the entire city within the fire boundary and, regarding it as a vacant site, he started to make a town-planning scheme.

The first scheme also differs from the final scheme in that the minor streets around the Exchange are straight and not at right angles to the longer streets; in the latter they have an angle in the middle of the length. The plots immediately east of Ludgate are set back in the first scheme, adding importance to the Gateway, and the narrow blocks of buildings along the embankment were added in the final scheme. The Custom House is not shown in the first scheme and the roads in the neighbourhood are consequently different, and the planning just north of Billingsgate varies considerably.

The only buildings that are marked by a reference letter in the first shown are the proposed Guildhall and Doctors' Commons. The site plan for a new Exchange is sketched in the same way in both schemes.

The basis of Wren's plan is the formation of two wide roads from the East, one from Leadenhall Street in the direction of Aldgate and one from the neighbourhood of the Tower; they meet at Ludgate, and St. Paul's Cathedral is in the acute angle of the junction: it would have occupied quite a small portion of the present site. Apparently Wren was willing to sacrifice a large cathedral for his angular scheme, for St. Paul's Cathedral would only have had about the same area as the Mansion House: had a large cathedral been built on the ancient site then the road plan was impossible. It all shows a rush, and even if the scheme had been approved the question of a large cathedral must have arisen and prevented the development of the idea. The plan strikes one as the first effort of a great man; prepared in so few days it could not possibly have had careful consideration.

With regard to St. Paul's Cathedral it is much to be regretted that to-day we get no general view of it from any main street east of the cathedral; the curve of Cannon Street gives us a charming view of a small portion of it and a view is obtained along Watling Street; but had Wren's plan for rebuilding London been carried out this defect would have been worse, for a reference to the plan will show that nothing could have been seen of the cathedral from any point east of it.

*Parentalia* was written by Wren's son Christopher and published by his grandson, Stephen Wren, in 1750. It is illustrated, but there is no map showing the great architect's scheme. The MS. is preserved at the Royal Society, and I was kindly allowed to examine it. There are some illustrations but there is no map; there is a marginal note: "Plan to be annex'd." An examination of the statements made in *Parentalia* is interesting. Filial enthusiasm is an excellent thing, but when it leads to gross exaggeration and absolute untruth it should be regarded with suspicion.

Christopher Wren, junior, stated: "Dr. Christopher Wren was appointed Surveyor-general and principal Architect for rebuilding the whole City. . . . A Charge so great . . . disposed him to take to his Assistance Mr. Robert Hook . . . to whom he assigned chiefly the Business of measuring, adjusting, and setting out the Ground of the private Street-houses to the several Proprietors."

The following are extracts from the Journal of the Court of Common Council stating the facts:—

*Bolton, Mayor.*  
4th Oct. 1666.  
*Jor. 46, fo. 123.*

Sir Thos. Adams and others of the Committee appointed by order of this Court to attend the Committee of Lords touching the great business of rebuilding the City declaring that they have there upon attended the Right Hon. the Lord Chancellor and other Lords of his Majesty's most honorable Privy Counsell and received from their Lordships his Majesty's pleasure.

*Dr. Wren, Mr. May, Mr. Pratt*  
*to joyne with City*  
*Surveyors.*

That for the better and more expedition of this work he hath pleased to appoint Dr. Wren, Mr. May and Mr. Pratt to joyne with such Surveyors and Artificers as should be appointed by the City to take an exact and speedy Survey of all Streets, Lanes, Alleys, Houses, and places destroyed by the late dismal fire, that every particular Interest may be ascertained and provided for the better judgment made of the whole affair.

This Court doth therefore Order that Mr. Hooke, Reader of Mathematics in Gresham College Mr. Mills and Mr. Edw. Jerman do joyne with the said Dr. Wren, Mr. May and Mr. Pratt in taking the said Survey, and that the Deputy's and Common Councillors have notice of the Surveys where the same shall be taken in every Ward to the end they may be in readiness to take care for the interest of themselves and the Inhabitants of their respective Wards.

*Jor. 46, fo. 129.*  
31st Oct. 1666.

This Court doth nominate and appoint Mr. Hooke of the Mathematics in Gresham House, Mr. Peter Mills and Mr. Jerman from time to time to meet and consult with Mr. May, Dr. Wren and Mr. Pratt, Commissioners appointed by his Majesty concerning the manner, forme and height of Buildings in this City, the Scantlings of Timber, removing of Conduits, and Churches, and alteration of the Streets.

*Form and height*  
*of Buildings.*

And it is Ordered that from time to time they report such their Consultation to this Court and give no consent or make any agreement therein without the special Order of this Court.



FIG. 1. DR. WREN'S FINAL PLAN FOR REBUILDING THE CITY OF LONDON, 1666. (Reproduced from his Original Drawing.)

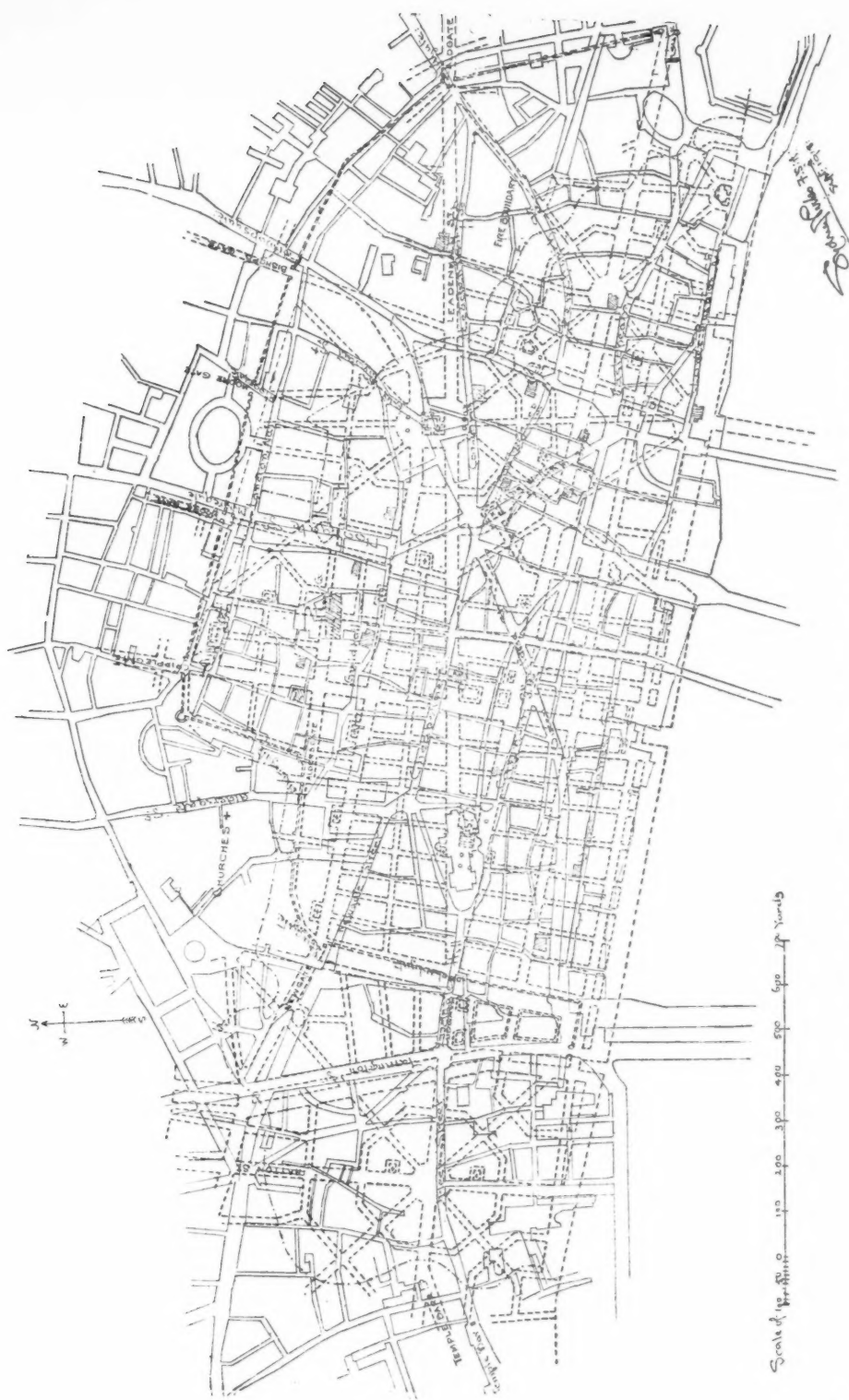


FIG. 2. WREN'S PLAN (AS ALTERED BY GWYNN) APPLIED TO A MAP OF THE DISTRICT AS IT IS TODAY



The above extracts show that the statement in *Parentalia* is not correct. Hooke was not appointed an assistant by Wren. He was appointed by the Corporation and paid a fixed salary. I have seen the receipt he signed on 30th December 1667 for £75 "for my sallary, for half a year ended at Mehas. 1667." There is no record of Hooke making any general plan of the City; all he did was to set out the foundations of each building after an application by the owner to the City Chamberlain.

The author of *Parentalia* states that "Dr. Wren . . . immediately after the Fire took an exact Survey of the whole Area and Confines of the Burning, having traced over, with great Trouble and Hazard the great Plain of Ashes and Ruins, and designed a Plan or Model of a new City." As we know that plan was placed before the king "within two days after the conflagration" the above statement is obviously an exaggeration. The description further states that the streets were to be "as near parallel to one another as might be: avoiding, if compatible with greater Conveniences, all acute Angles." It seems from this that Wren's son was conscious of a very serious defect in his father's plan and was trying to excuse it. Let us examine Wren's main 90-foot roads and we shall find that with the exception of two, or at most three, streets south of Ludgate, none of the cross streets are at right angles to the main thoroughfares, neither does the main wide street from Cripplegate cross the two main streets at right angles, except the street north of the Guildhall site. This is a serious defect in town-planning; so much so that when King William Street was laid out by Dance and he had to meet this difficulty which was imposed on him, he met it by a clever device of making the side streets join up at right angles for a few feet and then break away at the altered angle. This can be seen to-day at Abchurch Lane, Nicholas Lane, etc. This is an illustration of the benefit of having an architect to handle street improvements, and I hope the day is not far distant when no Borough Engineer or Surveyor will be appointed unless he is a member of this Institute.

Wren's son Christopher also states: "All Church-yards, Gardens and unnecessary Vacuities . . . to be placed out of the town." Had the scheme been carried out the City to-day would be without those many green spots which are some of the greatest charms of our old-world City.

The author of *Parentalia* states an advantage "by uniting the Halls of the twelve chief Companies into one regular Square annexed to Guild-hall." There is nothing in Wren's plan to suggest this, neither is there any "regular Square annexed to Guild-hall" on Wren's plan.

The author refers to the position of the junction near Ludgate and states from there "This great Street presently divides into another as large, which carries the Eye . . . to the South front of the Exchange." A glance at the plan will show that no part of the Exchange could be seen from the neighbourhood of Ludgate, and the eye he referred to must have been able to look round the corner.

Again he says: "Leaving St. Paul's on the left we proceed"—a distance of about a mile and a quarter—"towards the Tower, the Way being all along adorned with parochial Churches." As a matter of fact there are only four shown on the plan—and they are all at the western end of the road.

Had Wren's plan been carried out parochial and ward boundaries would have disappeared, some of them having existed since Norman times. The pamphlet of 1667 which I have referred to gives the number as "Eighty-nine Parish Churches, besides Chappels, burnt." Certainly at least eighty-six were destroyed or severely damaged. Wren only provided for the re-erection of seventeen churches. Six chapels were burnt, but Wren made no provision for their re-erection, and the scheme made no provision for the preservation of the old burial grounds which would have been desecrated.

In 1911 the copy of *Parentalia* which was owned by Stephen Wren's daughter was purchased and presented to this Institute. It has a large number of additional illustrations, including a scheme for rebuilding London; but, by an irony of fate, it is not Wren's scheme, it is Gwynn's version of it which he published in 1749, and he had the impudence to call it "A Plan for rebuilding the City of London after the great fire in 1666 design'd by that Great Architect S<sup>r</sup> Christopher Wren and approv'd by the King and Parliament but unhappily defeated by faction." I have communicated with the Librarian of the House of Commons and taken considerable trouble to ascertain if Wren's plan was approved by

Parliament, and I can find no record of any approval. The Journals of the House do not even refer to it, so we can safely regard Gwynn's statement as untrue. He also states that the drawing is "reduced from the original of St Christopher Wren." That is also incorrect.

Fig. No. 2 shows Gwynn's plan in dotted lines applied to a plan of London as it is to-day. The small dotted lines show the extent of the fire and the limit of Wren's proposal. The dotted plan does not fit exactly over the existing plan, but I took Ludgate and Aldgate as fixed points. Owing to slight inaccuracy of the seventeenth century plans such points as the Tower Gate, Cripplegate, Moorgate, etc., do not quite coincide.

This plan is often published as Wren's plan; but it is very different, it carries Wren's scheme beyond the fire limit, a new Leadenhall Street is continued ninety feet wide to Aldgate, and a new street is shown from Bishopsgate direct to London Bridge, which was impossible according to Wren's plan. Gwynn also shows a new street north of Cripplegate and a wide street north of the Strand. In the main road from Ludgate to the Tower he labels a circular building as a church, contrary to Wren's plan. Wren's plan for St. Paul's is sketchy, but it differs from Gwynn's plan. He labels certain open spaces as "Piazzas," a word not used by Wren, and he alters Wren's plan south of the Guildhall site and adds two churches. When we examine Wren's proposal and compare it with a plan of the City the first thing to strike one is his absolute disregard of the old streets. This is what was to be expected from Wren's first sketch plan. Not one single old thoroughfare remains, a little St. Paul's occupies part of the site of the present cathedral, the Guildhall and the Royal Exchange would both have had different sites. Among others the following old buildings would have disappeared: The Guildhall, with its magnificent crypt; the Crypt of St. Mary-le-Bow; Merchant Taylors' Hall; St. Alphage, London Wall; every old church in the City within the fire area—many of them, although partly destroyed by the Great Fire, still retain small portions of the mediæval buildings. This also applies to certain Halls of the City Companies. Except in the case of St. Paul's no attempt was made to place a new church on an ancient site, and, as stated before, every little green spot would have disappeared and the City would indeed have been one of bricks-and-mortar. If Wren's scheme had been carried out what an uninteresting place the City of London would be to-day.

Now let us consider the Guildhall. Apparently Wren intended to build it on another site, forming a large square block with streets on each side. During the time he rushed out his plan he could not have considered whether it was necessary to rebuild the damaged structure, and if he did, he came to the wrong conclusion. It is supposed that at a later date Wren acted as Architect for the Corporation with regard to the restoration of the structure. That is a tradition, but I have been unable to discover any document relating to the matter. Whether it was Wren or someone else is unknown, but we do know that Wren was consulted with regard to the Porch or Gate-house. Whoever it was who carried out the restoration it is clear that either he had no knowledge of Gothic architecture or that he had a profound contempt for it, or he would not have acted as he did. The old Gothic roof fell in, half the floor collapsed and with it some fine vaulting. The architect who restored the building made no attempt to replace the roof with a structure similar to the old. He levelled up the walls, built hideous circular-headed windows and erected a low-pitched roof with a flat ceiling. This was in keeping with the idea of rebuilding the premises, if regarded as a temporary expedient; and the same with the west portion of the Crypt. All the stones were on the site, the vaulting was simple, but the architect built what are usually called a series of railway arches in brick, using in the old Gothic stonework, bonding it in with the bricks or using it as rubbish to fill in the spandrels of the vaulting, and it is there to-day; the vaulting is just the same as an ordinary coal cellar under a London street. This again looked like the temporary measure of a man who intended to pull down the whole structure and rebuild it. Take the Porch as a third sample. Wren was responsible for a classic pediment similar to the upper part of Temple Bar, jammed on top of beautiful fifteenth-century work. The man who did that was obviously not only entirely ignorant of Gothic work but he had also, as I have said before, a profound contempt

for it, or he would never have allowed such vandalism. The loss of the old Guildhall roof was unpardonable, for it could easily have been reconstructed on exactly the old lines.

The earliest print of Wren's plan that I can trace is dated 1721, engraved by H. Hulsberg. This is at the British Museum. It was reprinted in 1744 and refers to the original in the possession of the Earl of Pembroke, signed Hulsberg, of 1724. There are two editions of this print of 1744, one without Hulsberg's name and a text substituted.

With regard to the Gwynn edition, it was also engraved by Sparrow, the City arms added, and Gwynn's name omitted. This is in the Crace Collection at the British Museum. There is also another edition of the Gwynn version given as Wren's and Gwynn's name entirely omitted. This again occurs in a French edition of 1758.

Hooke's plan of London has often been referred to but cannot be found. During a search at the Bodleian I came across a Dutch view of the Fire of London by Marcus W. Doornick of Vygendam. (Fig. 3). In the corner there is a plan for the rebuilding of London, and it is quite possible that it is Hooke's, for in Waller's Life of Hooke we read "all the chief streets as from Leadenhall corner to Newgate, and the like, to be in an exact straight line, and all the other cross streets turning out of them at right angles. All the churches, public buildings, market places, and the like, in proper and convenient places; which no doubt would have added much to the beauty and symmetry of the whole. How this came not to be accepted of I know not; but it is probable, this might contribute not a little to his being taken off by the Magistrates of the city, and soon after made Surveyor." Hooke, or whoever made the plan, was even more drastic in his ideas than Wren. Wren squeezed the cathedral site to an insignificant size, but the author of the Dutch plan wiped it out of existence. Hooke shows the sites of fifteen churches and Wren twenty-nine churches.

There is also an entire Dutch plan at the British Museum; it was published in 1666. The text is in Dutch, French and English, and refers to the "Fire of London, Befallen the 12th, 13th, 14th, 15th and 16th September 1666." It is by "Jan Craalinge Konst en Caert-verkooper in de Calver-straat 1666." There are two versions of the print with different descriptions, and each with a different plan of London before the fire, although each has the same rebuilding scheme, presumably Hooke's.

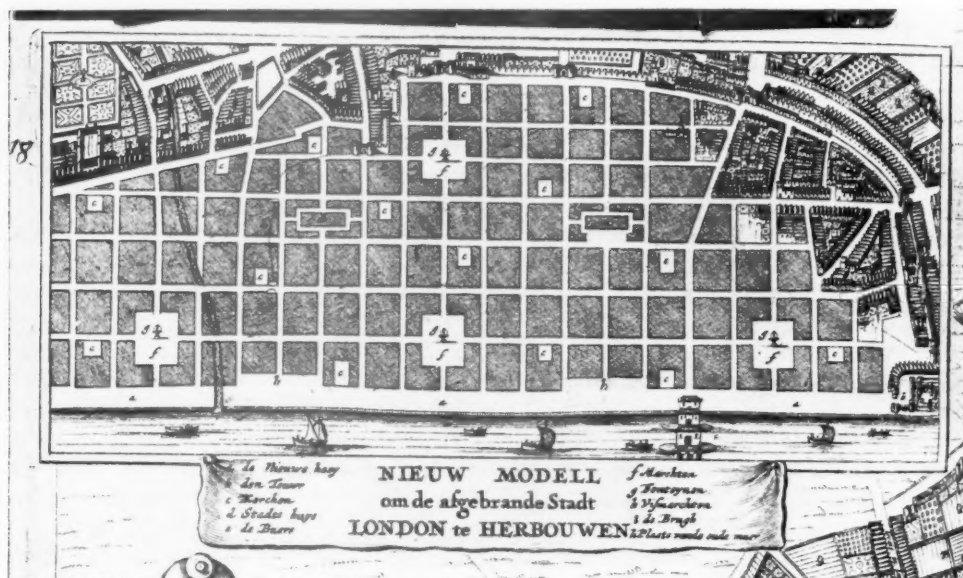


FIG. 3. A PLAN FOR REBUILDING THE CITY OF LONDON, 1666. (POSSIBLY HOOKE'S SCHEME.)



Knight also made a sketch plan. The most interesting point is the date, which was 20th September 1666, so Wren had a good start of him. The plans of Wren and Evelyn are not dated.

The question of a new plan for the City was very quickly decided. On 10th September, 1666, Sir William Morice, a Privy Councillor and Secretary of State, wrote the Lord Mayor the following letter from Whitehall :—

MY LORD,—His Ma<sup>tie</sup> being informed that some persons are already about to erect houses againe in the City of London upon their old foundations, hath comanded mee to signify his pleasure unto your Lordship that you inhibit and straightly forbid both them and all other persons whatsoever that they presume not to build any dwelling houses till further order, his Ma<sup>tie</sup> having before him certaine modell and Draughts for re-edifying the City with more decency and conveniency than formerly. And if notwithstanding this advertisement and the signification of his Ma<sup>tie</sup>'s pleasure herein, they shall yet proceed to build without order, your Lordship may assure them (as undoubtedly it will come to passe) that whatever they raise in such manner will be demolished and levelled again.—I am, Your Lordship's most humble servant,

WILL MORICE.

So we know that on 10th September the king had received some scheme, presumably Wren's, and we learn from Dr. Oldenburg's letter, quoted above, that His Majesty liked the idea of a new City and laid the proposal before the Privy Council, but the letter does not say the Privy Council approved the idea.

The Records of the Privy Council of that date are preserved at the Public Record Office. I have had a careful search made but no reference can be found to Wren's plans, either among the various papers or in the Privy Council Register. The earliest mention of Dr. Wren is dated 31st October; this refers to the preparation of a plan of the City as it was, and the clearance of rubbish, etc. There are also references in the following March, on the 6th and 12th; these concern the carrying out of the Act. Consequently, it seems quite clear that Wren's plan was not approved by the Privy Council. The King's advisers evidently made up their minds very quickly, as, indeed, they were bound to do, owing to the great distress and urgency of the case; and on 18th September, only three days after the date of the letter quoted above, the King signed a long declaration; it is preserved at the Record Office (State Papers Domestic Vol. CLXXI., No. 95), the printed copy is 10 pages long and the following are two extracts :—

We do declare, that if any considerable number of men . . . shall address themselves to the Court of Aldermen, and manifest to them in what place their ground lies, upon which they design to build, they shall in a short time receive such order and direction, for their proceeding therein.

We do declare, That Fleet Street, Cheapside, Cornhill, and all other eminent and notorious Streets, shall be of such a breadth, as may with God's blessing prevent the mischief that one side may suffer if the other be on fire, which was the case lately, in Cheapside, the precise breadth of which several Streets shall be . . . shortly published.

The above extracts show that Wren's plan was immediately rejected, people could build on their old sites; and, again, if Wren's scheme had been carried out there would have been no Cheapside and no Cornhill. It is clear that a Building Act was contemplated, to include provisions for widening the streets. The declaration was at once followed by activity to promote a Bill in Parliament, and on 24th September a Committee of Parliament wrote to the Lord Mayor on the subject, asking for the Remembrancer's help and referring to documents already drafted on the subject. No time was lost, the Bill was introduced on 29th December, it passed through both Houses, and on the 8th February following, less than four months after the fire, it became an Act. During the passage of the Bill some members were in favour of a rebuilding scheme, and it was evidently discussed, as might have been expected.

It has been stated that Wren's scheme was not carried out because of opposition of the Aldermen, and the City, etc. I think this is due to Gwynn's statement that Wren's plan was "approved by Parliament and unhappily defeated by Faction." I have shown that the plan was not approved by Parliament, and a careful search has been made at the Guildhall; the minutes of the Court of Aldermen

and the Court of Common Council, and also the MSS. of that date, of which there are many, have been examined, but there is not the slightest reference to the subject. A search has also been made at the Record Office and the British Museum, with the result that not a scrap of evidence can be found to support Gwynn's statement, which has been handed down and quoted and enlarged upon for over 150 years. Now let us see what a gigantic Utopian scheme Wren prepared. Four hundred streets, numbering 13,200 houses had been burnt down, and, say, 66,000 people were homeless. No doubt parts of the walls remained and there was subsequently little difficulty in marking the boundaries of the properties. On the old sites the people could get back very soon, some properties were certified early in the following Spring; but Wren wanted to "scrap" all the old streets and to form new roads of a length of over 21 miles; the roads were to be run through the remains of houses and churches only partly destroyed, and which, of course, would have had to be razed to the ground. Then he would have had to fill up old basements and cellars and form foundations for his new roads and then make the roads; the old supply pipes for water would have been useless, and a considerable portion of St. Paul's Cathedral would have had to be removed as it would have blocked up his two main thoroughfares. It was, indeed, a colossal scheme; it would have taken years to carry out, and the cost would have been enormous; in the meantime the people would have been homeless, and the trade of the City would have been stagnant, for until the new roads were made, no warehouses or business premises could be erected. No wonder the King's advisers came to a quick decision and rejected the idea.

Concerning Evelyn's schemes I have little to state. His plans are well known. On the first plate he states it was presented to the king "with a Discourse now in the Paper Office." I have had a search made at the Record Office and elsewhere without any success, for I want to read that "discourse." A reference to it in Sir John's diary implies that he has kept a copy. It may be at Wotton House; the Evelyn family is most sympathetic, and a search has been commenced, but as yet I have no good news.

On the second plate it is stated that the plan showed twenty-five churches on their old foundations, and all the principal streets almost in the same position. All the schemes show a street opposite the east end of St. Paul's Cathedral, and views were arranged from various other directions. Evelyn worked to improve the City for traffic and at the same time to preserve the ancient sites and all that was of interest to an antiquarian: a great ideal, requiring much time and thought, and it is not to be wondered at that his great competitor, acting with very different ideas, proceeded quicker, and so Evelyn wrote he had made his scheme "but Dr. Wren had got the start of me."

#### APPENDIX.

Cover) These  
for the Right honn<sup>ble</sup> Sr  
Thomas Bludworth kn<sup>t</sup>  
Lord Major of  
London.

My Lord,

A Committee of parliamt are appointed to meete this afternoone to receave propositions for the rebuilding of London, yo<sup>r</sup> Lo<sup>rd</sup> knows that those propositions wch were prepared were presented to my lord Chauncelor, to whom wee beseech yo<sup>r</sup> Lo<sup>rd</sup> to send for them, & to order the Remembrancer to bring them to us to the howse or to the legg where wee intend to dyne, And in case that the sd paper should not be got, yo<sup>r</sup> Lo<sup>rd</sup> may please to order a faire Coppie to be presently made that it may be sent us: who are yo<sup>r</sup> Lo<sup>rd</sup>'s humble servants

7 ber 24, 66

Y<sup>r</sup> Lordp will bee pleased to appoint some fitt persons to attend the Committee w<sup>th</sup> the proposalls, & to give constant attendance on them hereafter

Richard Browne  
W. M. Thomson  
Richard Ford  
John Jones

Endorsed 24 Sept 1666.

From y<sup>e</sup> Cittizens Members  
of Parliam<sup>t</sup>  
For a copy of y<sup>e</sup> proposalls.

PRIVY COUNCIL REGISTER 2/59.

Whitehall, 31 October 1666.

[King not named as present.]

Whereas the Committee of Lords appointed by his Ma<sup>tie</sup> to treat with the City about the rebuilding thereof upon conference with the Com<sup>ee</sup> appointed by the Common Councell of the said City for the same purpose the 18th. of October last it was agreed upon as followeth

That the streets & Foundation of Building be cleared & the survey and admeasurement thereof be taken & made (according to the late acts of the Common Councill & proclamation thereupon without delay. [with regulations as to the amount allowed to the land-owners &c for the surveye])

And it is referred and left to Dr. Wren, Mr. May Mr. Prat, Mr. Hook Mr. Mills & Mr. Jarman, and they are desired to contract and agree with able & skilful surveyours at reasonable rates, not exceeding those before mentioned, & to be supervisors of them for the effectual accomplishment of this service

WHITEHALL, 6 March 1666/7.

Present : the King etc.

His Ma<sup>tie</sup> in Councill refers back againe to y<sup>e</sup> Lord Chancellor & the rest of the Commissioners for building the City of London, that the Committee of Aldermen & Common Council who have delivered in proposalls to the said Lords Commissioners or the Committee that they have appointed, do draw lines in the Map, according to the modell they have proposed, that his Majesty may be the better able to judge of y<sup>e</sup> breadth of the streets & to give directions accordingly.

COUNCIL AT BERKSHIRE HOUSE.

12 March 1666/7

Present : the King etc.

His Ma<sup>tie</sup> having heard the Two acts of the Common Councill read distinctly to him of the 26th. & 27th. of February, the map of the City lying before him, his Ma<sup>tie</sup> looking upon the lines drawne out in the said map according to the orders mentioned, & deliberating & discoursing much thereupon his Ma<sup>tie</sup> doth fully approve & commend all y<sup>e</sup> Particulars mencioned in the said orders with these animadversions upon some of them.

His Ma<sup>tie</sup> doth recommend unto their consideration that if they can with any convenience ad some breadth to the Streets from the Greyhound Tavern in Flete Streete to the end of St. Paul's church into Cheapside, which by the orders are appointed to be enlarged to fourty foote at the least, so that the same might extend to fifty foot as near as it may be.

2. His Ma<sup>tie</sup> doth recommend to their consideration that instead of raising Fleete Bridge six foote it may be raised nine foote high without which Boates will not be able to pass under, and that the levelling of the Ground be accordingly

3. His Ma<sup>tie</sup> doth recommend unto them the consideration of enlarging the streetes from Holborne Bridge to Newgate, the same being at present in no degree proportionable to the rest

4. His Ma<sup>tie</sup> doth recommend to their consideration the making a Strete from the end of the Old Bayly to the Thames, which his Ma<sup>tie</sup> conceives will easily be done, & will prove of Great Benefit & convenience to the City.

5. His Ma<sup>tie</sup> doth recommend to their consideration the taking away the Middle Rows from the Sessions in the Old Bayly to Smithfield and to Wyden it to the Old Bayly, and that instead of the two Rows onely one Row of Building may be erected.

6. His Ma<sup>tie</sup> doth recommend to their consideration That the lesser and Meaner Halls may be erected next the Thames, which will ad much Beauty to that Place, and the ground whereon they stood will be applyed profitably to other uses.

7. His Ma<sup>tie</sup> presumes that such care will be taken for common markets, that there may be no Markets kept in any Strete

8. Lastly his Ma<sup>tie</sup> doth appoint Mr Hugh May, Dr. Wren & Mr Prat to be ready at all times to conferr with the committee of the City and their Surveyors, & to give their best advice & assistance whenever it shall be required.

## DISCUSSION OF THE FOREGOING PAPER.

Mr. E. GUY DAWBER, *Vice-President*, in the Chair.

Professor S. D. ADSHEAD [*F.*]: I have very great pleasure in proposing a vote of thanks to Mr. Perks for his Paper, which I may describe as an extraordinarily interesting piece of research. With regard to his general attitude towards Wren and his work, Mr. Perks rather dwells on the view that Wren was more of a business man than an architect. He tells us that Wren prepared his hurried scheme in three days: but has Mr. Perks made any research concerning Wren's meanderings during the period of the Great Fire, because if he was a great business man he would be thinking about his plan then. My own feeling is that a really great architect must necessarily be a good business man. With regard to the plan itself, from what plans of other towns of Europe could Wren have obtained ideas? The Piazza del Popolo, with its radiating streets, the Corso, and others whose names I forget, were laid out in 1570, that is to say, nearly a hundred years before the Great Fire; and certain towns in Italy had prepared big plans—Leghorn, for instance. But practically nothing had been done in France; the

great schemes of Louis XIV. were hardly matured. Therefore, comparing it with all the plans that have been prepared subsequently, there is no doubt Wren's plan was an extraordinarily fine piece of work. I might comment upon three details of the plan which occurred to me when looking at the slides. In the first place, of all the plans shown Wren's was the only one which continued a street of first-rate importance parallel to the River, and the continuity of the Strand. All successfully planned towns which are on a river front, or on a sea front, have, it is curious to note, a second street from the river or sea front of first-rate importance. Whether Wren instinctively or consciously planned that street, I do not know, but his plan is the only one which preconceives that most important feature. In the second place, Wren, in his more mature scheme, turns all his cross streets into his main streets at right angles. Mr. Perks has pointed out that this was done by Dance, but he did it in all cases where the angle was in any sense acute. Mr. Perks said that Wren paid no thought to the right-

angle junction of his streets. I consider, however, that practically all Wren's streets were laid out with right-angle junctions, and I think Mr. Perks is counting many streets which do not join at quite a right angle by a matter of only two or three degrees. The point is that Wren made a great effort to connect his streets at right angles, whereas Dance practically only cut off the corners and so gave a very awkward building site. Wren produced practically square sites every time. There is another point. Wren's scheme was a big conception; he was not allowing himself to be thwarted by side issues, such as considering merely—as Evelyn did—the preservation of ancient churchyards, water-pipes and so forth. He took the "big view" and did his best to carry it through. There are many other points which strike me as showing extraordinary capacity for such a conception at such a time, especially remembering the speed with which it was undertaken. Therefore I am sorry to have to join issue with Mr. Perks and stand up in support of the plan of Wren.

Sir BANISTER FLETCHER [F.], Ex-Sheriff: It gives me very great pleasure to second this vote of thanks. I think we may take it that there is no keener student of London architecture than Mr. Perks. But I must say I disagree with most of what he has said to-night. My own opinion—and I put it to Mr. Perks as one which is, perhaps, worthy of some consideration—is, that Wren's plan was merely a sketch and that he never really believed it could be carried out. Many of the points Mr. Perks has brought forward are obviously weak ones. His principal point was, that Wren's plan took no account of the main thoroughfares. Any town-planning scheme, however grandiose and however good, which leaves these main ideas out of consideration must be doomed to failure. As one who has worked under the shadow of St. Paul's for many years, I must say that we owe a great deal to Wren; and probably one of the things we owe most to him was that his town-planning scheme was never carried out. We might have got a continental town; a town-planning scheme such as many of our members are busy designing now, but we should have lost London, and that would have been a greater loss than could have been made up by any town-planning scheme. Mr. Perks, again, was rather hard on Wren with regard to the Guildhall. Mr. Perks and I have had something to do with retaining one of the great features in the façade of that building. But what would any other architect have done at the time of the Great Fire? Wren followed the universal custom. People had begun to look down upon Gothic architecture, regarding it as a degraded form of art, just as our present architecture will be regarded in the years to come. (Laughter.) It is a question of fashion, and Wren did just what every other man did at that time in reconstructing: he did it in the prevailing fashion of the age, that is, the incoming Renaissance. Therefore I think we should hardly reflect upon Wren for what he did at the Guildhall. But whatever Wren did not do,

he certainly left London one of the most beautiful cities in the world. If you go to the top of St. Paul's, and look at the fifty churches he left behind, and note the magnificent and varied treatment he has given to them, situated, as they are, as satellites round the magnificent structure of St. Paul's, you must realise that he made London one of the most beautiful cities in the world, and that will always remain as one of the greatest things that Sir Christopher Wren did for London, and, indeed, for the Empire. When we think of the small men who are designing in these days, when we think of the war memorials which are being designed and then think of the terrible things which might have happened in the days of Wren, I think we must feel proud of our great Renaissance Architect. And although he may have produced a scheme merely sketchily drawn out—which he thought would never be brought to fruition—we, as architects and citizens, owe him one of the greatest debts of gratitude that we can think of. I leave off on that note: that Wren has done for us more than any other architect, even including Inigo Jones, or any other who ever lived in this England of ours.

Mr. WM. WOODWARD [F.]: I agree with Professor Adshead and ex-Sheriff Sir Banister Fletcher that Mr. Perks has not passed any eulogium upon Sir Christopher Wren. Sir Christopher Wren designed a plan for the rebuilding of London after the Great Fire, and one of the criticisms which Mr. Perks has passed on the plan is that he contrived it in two or three days. But great geniuses do not require even three or four hours, let alone days, for their conceptions. It has been said to-night that Wren was not permitted to carry out his original plan. With all due deference to Mr. Perks, I prefer to rely upon the *Life of Sir Christopher Wren*, written by James Elmes in 1823, and when I quote these words I do so in admiration of Sir Christopher Wren, who has certainly left one of the most magnificent examples of architectural art ever conceived by any architect. Elmes says (Preface): Wren "experienced the ingratitude of contemporaries, and the apathy of successors, in a more extraordinary degree than perhaps ever befel a man of equal talents, of equal public utility, and of equal celebrity." P. 216: "Melioration money paid to several proprietors, who had their ground taken away for the making of wharfs, enlarging of streets, making of new streets and market places, etc." P. 222.—Rebuilding after the Fire: The scheme provided "that there should be a fair quay, or wharf, on all the riverside, and prohibited the erection of any houses to be inhabited by *brewers, dyers, or sugar-bakers*, which trades, by their continual smoke, contributed very much to the unhealthiness of the adjacent places; but that the Lord Mayor and Aldermen were to propose such a place or places as might be fit for those trades; and that compensation would be granted to the proprietors of such houses or lands as were taken for the public benefit."—Note by Elmes thereon: "This noble and beneficial design, which it was the intention



of the legislature, on the recommendation and from the designs of Wren, to carry into effect, has been gradually rendered ineffectual, and is now nearly destroyed, by the cupidity of certain brewers, &c., whose very trades were prohibited by this proclamation to be carried on, in this situation, but who have nearly built a series of wretched store-houses over this intended quay, and would have completely robbed the public of the little now left but for the interference of a few public-spirited neighbours, who opposed an intended bill for stopping them all up by repealing the Act of 22 Charles II. cap. 2." The plan was to construct a "grand public quay from London Bridge to the Temple, as granted to the citizens by Charles, but also as far as Westminster, and on both sides of the Thames by inclosing from the mud nearly to low water mark, which is public property." Regarding Wren's plan for London, notwithstanding what Mr. Perks said, I rely upon James Elmes's statement showing how Wren's grand design was frustrated. Although Mr. Perks says there is no record whatever of the opposition raised by these Aldermen, I think, from what I have read of the history of London, that it was extremely probable that these Aldermen would not allow their property to be altered: they wanted to build their wharves and houses on the same lines as before, and that upset that part of Wren's scheme. I never knew, until Mr. Perks showed us the first design of Wren, that St. Paul's Cathedral occupied so small an area in comparison with the design he had for the street. I agree with Mr. Perks that if Wren contemplated that street with the superficial area for the Cathedral shown in the plan, Wren would have made a great mistake. But, apart from that, we do not know to-day what influences were brought to bear to prevent the carrying out of the magnificent plan which Wren designed. As has already been so well said by previous speakers, Sir Christopher Wren was a great architect, the greatest architect we have ever had, and I am only sorry that Mr. Perks should have taken away somewhat from the credit we have always given to Wren for his plan for rebuilding London. Most of us will agree that if Wren's plan for London had been carried out we should have had a far better city than we have to-day. At the same time, I endorse all that has been said about Mr. Perks's painstaking inquiry and the way in which he has put before us the results of his researches.

Professor RICHARDSON: I propose to say only a few words on this important subject—first, of what we know concerning the planning of London in the year 1666. Both before and after the Fire great use was made of the river as a means of getting about. It was to me a pleasure during the recent railway strike to see the steamers proceeding from Richmond to London crowded with passengers. I think we ought to make more use of our noble Thames. Another point is that in 1666 the citizens enjoyed the privilege of having the fields very near their shops and offices. Frequent excursions were made to the

fields at St. Pancras to take the air, and it was the custom for certain citizens to attend services at the church in Clerkenwell, as well as to make excursions to Lisson Grove and other places near London. From that I think we ought to make every endeavour to conserve the ring of country within ten miles from Charing Cross for the enjoyment of present-day citizens. It is not generally known, but we have it on the authority of an obscure letter written by Pepys, that the streets, as proposed by Sir C. Wren, were actually staked out for Londoners to see. Unfortunately, the brilliant scheme never got beyond the staking process. In 1666 a certain Colonel Birch raised the question in Parliament that the lands devastated by the Fire should be sold and placed in trust, and that the trustees should have power to re-sell, giving preference to the former owners. This scheme, unfortunately, fell through, and so a fine chance of re-building London in the grand manner was lost.

Mr. BERNARD KETTLE (Librarian, Guildhall), said there were many mistakes in Elmes's book, and it never did to take what it said unless one could corroborate it. To quote an instance, Elmes gave as the reason why the Grub Street name was altered to Milton Street was because a speculator bought the houses in the street and changed the name to his own name, which was Milton. But that was not the case. The reason was that the inhabitants complained that their business was prejudiced by the name, and they petitioned the Commissioners of Sewers—who were then the Street Authority—to change it.

The CHAIRMAN, in putting the vote, said he thought they would all congratulate themselves that Wren's original plan in its entirety was not carried out, for, if it had been, we should not have had the magnificent building which was the glory of the Empire—St. Paul's Cathedral—as we now find it.

Mr. SYDNEY PERKS, in the course of his reply, said: When I consented to read this paper I was aware I was starting on something new and venturesome, and I wrote our Secretary telling him I should come here in a tank and wear a gas mask; but the discussion has gone off much more peacefully than I expected. For some years I have been trying to write the history of the Mansion House and that district, and when I got as far as the date of the Fire the locality began to open out. I have a rather inquisitive mind, and I like to find out from original documents why certain things were done. I thought the subject of to-night's debate was hardly suitable for a book on one locality, so I wrote a paper on it and I consider it a great honour to submit it to this Institute. I wanted to throw entirely new light on a most interesting subject and not to come here and tell you what you can read in books, and know already. With regard to rushing out the plans, I quoted from Evelyn's Diary, etc., and I have given you chapter and verse for my conclusions generally with regard to the history of the



proceedings. Mr. Woodward is quite right about certain opposition; it occurred during the passage of the Bill through Parliament. The Privy Council might have liked Wren's plan; we do not know if they did or did not, but we do know they had it before them. I read a letter which has never been published; it was stated on behalf of the King that if any man built on his old foundations the premises might be pulled down as His Majesty was considering a scheme for new streets. Three days afterwards the King signed a declaration that people could build on their old foundations and fronting the old streets, and that certain streets would be widened. That meant that Wren's scheme was rejected. In the same month the Bill was drafted, and the Act was passed within four months of the disaster. It was called "The Act for Rebuilding the City of London," the embankment was dealt with under the Act. I have here extracts from the Privy Council documents regarding the Corporation and procedure under the Bill. I believe they have never been published; they will be printed as an appendix to my paper. I agree that Elmes is unreliable, but I believe the man who started all the trouble was Gwynn. If Mr. Woodward will turn to Appendix XIII of Elmes's book he will see it is headed "Proposals for Rebuilding the City of London after the Great Fire.—By Sir Christopher Wren." You would think Sir Christopher Wren wrote it, but it is a copy of part of *Parentalia*. Another unreliable book says the great charm of Wren's plan was that all the streets were to be at right angles, which they were not. With regard to Dance's idea, he had to cast a wide street through other streets, and there had to be awkward angles, but he schemed so as to cut off the ends of acute angles and build so that the side streets are at right angles to King William Street for a short distance. It was a piece of very clever planning. I have put before you three plans of Wren's, two of them I believe have never been reproduced, and I hope I have given you new facts and references. I based my arguments on those facts. It would, of course, be impertinent for me to criticise Wren's architectural genius, but his town planning scheme was produced in a great hurry, and I think Sir Banister Fletcher is quite right—the scheme might have been great, but we ought to be thankful it was not carried out.

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**Professor Lethaby on Minor City Improvements**  
(*Builder*, 5th December).

No. XI. of Professor W. R. Lethaby's "Observations and Suggestions," which have appeared at intervals in *The Builder* of late months, suggests an easily managed and comparatively inexpensive improvement of what the author has called the "Forum of London"—embracing Whitehall with Trafalgar Square at the top and Westminster Abbey and the Houses of Parliament at the other end, "forming a unit," suggests the Professor, "which in more than one sense is the ceremonial and organic centre of larger London—the

Kingdom and the Commonwealth." The article continues:—

The two "places" and the connecting street form almost a scheme which nearly reaches to order and dignity. With a little modification of the lines near the N.W. corner, where Whitehall opens into Trafalgar Square, and the rebuilding of a few shabby frontages, the three parts might readily be thought of as one civic whole and . . . would furnish the proper site for our most honourable public monuments. . . .

There is no harm, I think, in Parliament Street not being in a right line between the two open areas; a very slight modification would put it into a reasoned relation with the National Gallery and the Nelson column. The essence of my proposal is that the two squares and linking street should be considered as one whole and given a special status in the organic system of the Metropolis. Then various problems connected with this selected area should be dealt with as opportunity offers from the point of view of civil order, public dignity and necessary tidiness. I should fear any grand scheme of changing the character of what we know so well. I would not sacrifice even the wretched fountains of Trafalgar Square, or violently attack the Nelson column; but, taking all but a bare minimum for granted, we should seek amelioration by slight modification and carefully considered *additions of high quality*.

The front of the National Gallery is, in itself, pleasant enough; at least, it is not vulgar, and it is better to be dull than aggressively "artistic." We don't want "Jazz" architecture everywhere. Of late years, with the progressive loss of the sense of public propriety and the instinct for what is "not done," all sorts of wretched accretions and mean adjuncts have intruded on the roof of the old building. The simplest way to deal with these horrors and imbecilities would be to raise the parapet by inserting a few feet of plain masonry under the balustrade. The terrace wall in front of the National Gallery is quite fine (for us!), and nothing, except possibly some sculptured reliefs of a high order, should be allowed to encroach on it. Some lamps, which stand at the terminations of the lateral enclosing walls, are of exceptional excellence; I should like to know who designed them. He did his public duty. The commercial-looking fountains, sad and grim, might well form the bases for bronze accessories, which would, at least, make them tolerable. The Nelson Column is a very middling and muddling monument; but it is one of the few national symbols we have and the lions are fine and even noble. . . . The column and the statue are a little difficult, but I am sure they might be immensely improved if we wished by some reasonable additions and by cleaning and smartening. If only the statue and the Corinthian capital were gilt, it would make a gleaming mass that would reflect the sun and shine afar. Gilding is one of the legitimate means of adorning a "Forum," and has been traditional from the days of the golden milestone in Rome to those of the City Square in Brussels. Nelson's statue looks mean and forlorn and the great capital has "too little to do." If some little open metal rotunda or kiosk were erected about the statue, something like a bird-cage, having four big openings, with the standards rising from the angles of the capital, that would greatly help it. Then statues could be grouped around the column itself, supported on corbels, and sets of big bronze wreaths might be hung below the capital. Finally, we must have some flowering shrubs; they might be supported on light iron gratings over the water basins, out of the way of the active boy. . . .

## REVIEWS.

## STANDARDISATION.

*Standard Notation for Engineering Formulae. Report of the Science Committee of the Concrete Institute. With Explanatory Notes by E. Fiander Etchells. Published by E. & F. N. Spon, Ltd., 57 Haymarket, S.W.1. Price 6s. 3d. post free from the Secretary, Concrete Institute, Denison House, 296 Vauxhall Bridge Road, Westminster, S.W.1.*

The tendency to standardisation in almost every department of life is one of the most notable features among the developments of the last half century. Fashion, which dates at least from the time when our ancestors used blue woad as a covering, is the attempt to set up an arbitrary standard, which loses its charm as soon as it is generally adopted, and for that very reason is totally opposed to the kind of standardisation we have in view. There is no standard of beauty; the copper-haired saints of Rossetti, the black-haired beauties of Italy and Spain, the blondes of Northern Europe, all have their admirers and we are justified in allowing each to be representative of a glorious type. Standardisation means uniformity, but uniformity utterly destroys art, while it is perfection when applied to mechanism. When the writer was a lad, if a nut was lost off a bolt a new bolt had to be made, as no other nut could be found to fit it. Then came Sir Joseph Whitworth, who laid down a standard of proportions, and the difficulties vanished. This was the beginning of a great movement. With the spread of machinery, manufacturers found it to their interest to design standard patterns, with the parts so accurately formed as to be perfectly interchangeable, and the division of labour enabled them to pay good wages and yet keep down the cost to the lowest limit. This specialisation on the part of a few firms led others to appreciate the advantages which it offered, and the outcome of it was the formation of the Engineering Standards Committee eighteen years ago, during which time it has done an enormous amount of valuable work. It has standardised the details of many different things, from locomotives to drain pipes, of which the particulars are given in over a hundred reports. Portland cement and structural steel need only be named among them to bring home to architects the value of the services rendered, especially if they are old enough to remember the chaos that previously existed. The modern developments of steel frame construction and reinforced concrete have driven the architect to extend his view beyond the confines of art to some of the branches of science, particularly that of mechanics. He has had perforce to refer to text-books and formulæ. Being conscientious, he has endeavoured to check his notions by referring to more than one book, and then his troubles began. He found *L* might mean length or load, *D* depth or distance, *S* stress or span, and so on; intensity of pressure might be *p* or *f*, radius of gyration *r*, *k*, or *g*; and there was no sort of uniformity to be found among

the different authors, so that each had to occupy valuable space in explaining what the letter stood for with him, but this did not help much in comparing different formulæ. In view of this "clashing of the symbols" [? cymbals] the Civil and Mechanical Engineers' Society, followed by the Society of Engineers, and later by the Concrete Institute, endeavoured to find some common ground of expression, so that the different formulæ for the same thing could be intelligently compared, but it was not until Mr. E. Fiander Etchells took the matter up that any firm progress was made. He brought to bear upon it his ripe mathematical knowledge and scientific devotion, and not only laid a good foundation but reared a noble structure in his scheme of Standard Notation. Taking as his basis that one letter or symbol should have only one meaning, he cast about to find the best principle to work upon and decided that the notation should be as nearly mnemonic as possible. With this object he proceeds by successive curtailment, thus diameter = diam = dia = *d*, or radius = rad = *r*, *d* and *r* being sufficient to indicate diameter and radius respectively and to recall these words. At the same time the lesser letters (*a*, *b*, *c*, *d*, etc.) indicate relative lesser-ness, such as lineal dimensions, while the greater letters (*A*, *B*, *C*, *D*, etc.) indicate relative greater-ness, such as products of lineal measurements including mass, volumes, moments, etc. It is unnecessary to detail here all the reasoning that has been adopted in fixing the significance of the various symbols. It will be found fully explained in *Mnemonic Notation for Engineering Formulae*, being the report of the Science Committee of the Concrete Institute, with explanatory notes by E. Fiander Etchells. This notation was adopted by the R.I.B.A. in the Second Report of the Joint Committee on Reinforced Concrete, and by the Institution of Civil Engineers in the Second Report of the Committee on Reinforced Concrete. It has also been adopted by other bodies and by numerous private authors, and its general use will considerably help the student to appreciate the similarity in apparently diverse formulæ and lessen his labour of assimilation.

HENRY ADAMS, M.Inst.C.E.

## THE MAESTRI COMACINI.

*Further Notes on the Comacine Masters. By W. Ravenscroft. Reproduced from "The Builder," the official journal of the National Masonic Research Society, Anamosa, Iowa. (With a frontispiece showing, by an old print in Como museum, the Isola Comacina and fortified points at Argegno and on opposite shore. Also many other illustrations, including a portrait of the author.)*

"The name of Comacini was derived from a body of Italian architects who built for the Lombards and who kept alive those art traditions, well nigh smothered under the overwhelming weight of misfortune which pressed upon the peninsula in every shape after the invasion of those barbarians. For twenty years after Alboinus and his followers overran the plains of Lombardy, the Isoletta Comacini, which held out against their power under Francione, an

imperial partisan, contained numbers of fugitives from all parts of Italy, amongst whom were many skilled artisans known as the *Maestri Comacini*, a name afterwards changed into that of 'Casari' or 'Casarii'—builders of houses. After they had submitted to the invaders, their college or guild was favoured by the Lombard kings; its members were enfranchised, made citizens, and allowed certain important privileges, such as that of making contracts, which were not, however, conceded to their assistants."

The well-known authority on the History of Masonry, Mr. W. Ravenscroft [F.], the architect, has supplemented his book, which Elliot Stock published for him under the title of "The Comacinei, their Predecessors and their Successors," by issuing recently some "Further Notes on the Comacine Masters." In directing attention to this matter, the above quotation from Perkin's "Italian Sculptors" supplies a concise summary in relation to the origin of the nomenclature of this subject, and thus conveniently serves as a prelude to a brief notice of Mr. Ravenscroft's architectural pamphlet now added to the Institute library. The author's original treatise concluded with certain definite deductions. These are enumerated at the outset of his present brochure, and begin with a reference to the influence of a pre-Christian race of Hametic descent, subsequently known in Syria, Asia Minor, in Greece and Italy, as the Etruscans. The Hittites who built the Temple at Jerusalem are mentioned with an additional note as to the arts of Rome having been acquired from the Etruscans. The Collegia of Artificers developed when Rome still possessed the traditions of King Solomon's time. On the downfall of Rome, the Guild of Artificers decamped and settled in the Como district, making their headquarters on the Island of Comacina or *Isola St. Giovanni*. From thence spread their influence all over Western Europe, including the British Isles. These guilds as they migrated and dispersed merged into the masonic craft of the Middle Ages, and the author claims that as these ancient traditions spread and the old forms and ceremonies became obscured by time, they were preserved more or less by the modern lodges in English and American masonry. In quest of further evidence since the issue of his book seven years ago, Mr. Ravenscroft has followed up his previous studies by many personal surveys in various Italian towns, and more particularly urban centres in the vicinity of Como, where he was assisted by Cav. A. G. Caprani, the owner of the Island of Comacina, who likewise furnished him with introductions to eminent Italian archaeologists. In this way a new collection of drawings and notes has formed the basis of his present paper, wherein he sums up his investigation after a review of all the accumulated items of evidence by arriving at the conclusion that we must recognise a chain which consistently extends from the Roman Collegia through the Comacines to the mediæval guilds and henceforward to contemporary masonic lodges, who hold

in trust the traditions and associations inherited from their ancestors. The author recognises the speculative aspects of the matter and the theoretical application of this inheritance; indeed, he admits quite plainly that he always regarded the historic preamble as more or less hypothetical, specially in relation to centuries before Christ.

The far-reaching and wonderful story about the origin and evolution of the Dragon from Babylon and Egypt has led to many diverse speculations, and that mythological tradition has its counterpart in the historical enquiry as to the original inspiration of the Lion in art, traced by some archaeologists to the Hittites, on which question the late Tavenor Perry is quoted as an authority.

The Etruscan lions, employed so freely for the bases of columns and portals in later Italian sculpture, are instanced, and we are reminded in this connection of the lion discovered a short time since at Corstopitum, near Corbridge-on-Tyne, during some excavations. It is said to be remarkably typical of the Comacine variety, Roman in character and yet suggesting artistic tendencies which distinctly anticipated the craft of the Middle Ages. The same indications of progressive advance mark the architectural planning found among Comacines, whether their buildings were intended for an oratory, a church or a cathedral. Their prototypes in all cases are found in Rome. In illustration of this the author directs attention to the plan of the Oratory of St. Benedetto in Civate, which also, in the shaping of its roof, shows a striking resemblance to "The Memorial Cella" in the cemetery of St. Callisto, one of the most ancient Christian buildings still standing in Rome. The Comacine church of Sta. Maria del Tiglio, at Gravedona on Lake Como, is also very like the second century chapel of St. Priscilla, one of the most ancient in the Catacombs, and which is almost identical in plan.

The baptisteries near Como, such as the one at Lenno, likewise seem to have been modelled on early Roman ones of Christian design dating from the establishment of the Catholic Faith under the patronage of Constantine.

The larger churches of St. Benedetto di Monte Oltirone, with its side aisles; St. Giovanni at Bellagio; St. Eufemia on the Island of Comacina; St. Abbondio at Como, as well as others, are instanced as following with slight variations the type of plan which distinguished the Early Christian basilican churches in Rome.

Mr. Ravenscroft usefully sets out a series of examples for comparison, and goes on to say that when the Comacines developed and moved eastward much of their work was marked by Byzantine influence. Meanwhile, ecclesiastically, the whole tendency of the Comacine church, under the jurisdiction of the Archbishop of Aquileja, looked to Byzantium rather than Rome, and at this date the inhabitants of the island depended *de facto* on the Patriarch of

Constantinople. Their descendants in Varenna to this day are called "Patriarchini." "Geographically as well as through the religious attitude of its hierarchy this district could not be other than a direct and easy channel for the flow of Eastern ideas in matters of art as well as religion." This influence distinguished in a very marked degree their development of architectural style, and generally their buildings naturally embodied the essentials of the Greek plan, including the adaptation of the dome on essentially Byzantine lines. In its more elementary form the Greek type of plan would consist of a nave, presbytery, and possibly transepts, all approximately of equal length, with a cupola over the crossing. The Comacines sometimes employed the dome, but instances are not common. This dominating feature might equally well arrive from Rome, and it is not assumed that it came exclusively from Byzantium. The Pantheon at Rome had been a familiar example for centuries, but the Duomo at Ancona illustrates a relationship with the Byzantine dome. This church is basilican in lay-out, and had the altar set at the west end, while the portal was at the eastern extremity of the building. The structure dates from A.D. 500. Six hundred years later the church was turned into a Greek cross and the altar was located in the new choir towards the north, and the dome belongs to this period.

In the pamphlet comparative photographs of much interest are reproduced side by side, showing the Xth century church of St. Benedetto, Civate, Como, and the Cella St. Callisto at Rome, built in the XIth century. They are very similar in general proportions, though windows occur in the later church as essential features with other items of detail. The plan of St. Pietro al Monte, Como, is given, showing its elaborated enclosed porch or narthex at the east end, while the altar under a baldachino is set about half-way almost in the middle of the church, a considerable distance in front of the apse, which has an encircling mural bench for the seating of the clergy or choir. This example of XIth century ecclesiastical ritual when the celebrant faced the east adds much to the architectural value of Mr. Ravenscroft's illustrations. The church in question was built about a century prior to the dissolution of the Guild, which synchronises with the fall of Comacina, when individual craftsmen carried away in all directions their Comasque traditions as they evacuated the fortified island of the lake, called by Abbot Florino "Christopolia," because it was the place of refuge of peaceful Romans who escaped from the Lombard invasions and devastations long before.

A list of British churches is given by the author for reference, showing, as he sets out to claim, it is more than a coincidence that their original plans illustrate the Comacine influence, confirmed likewise as this is by their caps and columns and other essential details of design. Rochester's first Cathedral; St. Pancras Church at Canterbury; remains of two early chapels at

Christchurch Priory; Corehampton, Hants; Bradford-on-Avon; Escomb, Durham; Monkwearmouth in the same county, as well as at Jarrow; Corbridge, Northumberland; Boarhurst and Hambledon, Hants; also others whose basilican forms with aisles and apses have been obscured by later additions, such as happened at St. Wilfrid's Church, Hexham, and St. Wilfrid's, Ripon; Brixworth, built about A.D. 680; Lydd Church, Kent; Wing in Bedfordshire, and the ruined church at the Reculvers, Kent. Besides these, reference is made to the original cathedral church at Canterbury, destroyed in 1067; the first church at Romsey; the crypt of Winchester Cathedral, and the parish church of Goring in Oxfordshire. This list does not include basilican churches in this country which had rectangular chancels, drawn most likely from later types and free of Comacine associations. Perhaps the most distinguishing architectural feature in this connection consists in their campanili of early date, for they abound in Italy, but not elsewhere. The splendid tower at Sompting, in Sussex, though much reduced in height since it was built, clearly owes its erection to foreign influence and probably Comacine craftsmen.

MAURICE B. ADAMS [F.].

## CORRESPONDENCE.

### The Housing Problem.

To the Editor, JOURNAL R.I.B.A.—

DEAR SIR,—With further reference to the most interesting paper by Mr. Davidge, Housing Commissioner for the London Area, I should like to make reference to the following points. First as to

### The Position of the Factory.

Under the paragraph "State Aid," Mr. Davidge, in dealing with the uncertainties as to the provision of houses to be made in any particular district, states that "the calculations of any outlying district may at any moment be upset by the whim of any large factory owner or other employer of labour who comes or goes."

In practice I have never come across such a state of affairs. In pre-War days one's clients always made the question of "labour"—viz., proximity of houses of the working classes—their primary consideration when selecting their factory sites, and quite as important as that of railway sidings, transport facilities, and room for extension. After the greatest consideration had been given to these main points, and the lesser ones of rates and taxes, roads, subsoil, water supply, drainage, etc., the necessary decision was arrived at, and the outlay of perhaps many thousands of pounds on the erection of a factory commenced.

To term a large decision of this nature, probably supported by legal and professional advice, a "whim" on the part of a large factory owner is, I submit, not supported by facts. As to the large factory owner suddenly going, surely that could only be by reason of the total failure of his scheme—viz., bankruptcy, or



because of miscalculation as to the room for extension, or on other points connected with his original decision. In the latter case it is usually found that the factory buildings became available for another factory owner of lesser degree, whilst the former owner cuts his losses and removes to a wider sphere.

Considering the housing problem economically, together with the transport to their daily work of the fortunate inmates of these new houses of the working classes, I am of the opinion that it is of enormous importance that some of these new colonies should have in their immediate neighbourhood certain lands suitable and allocated as factory sites.

As a matter of practical finance, the factory owner cannot nowadays go into the "wilds," erect his factory, and build his garden village for his employees, the village not even with the assistance of a State subsidised Public Utility Society, unless, as a set-off to the nomination of his own employees as first tenants, he is content to receive little or no interest on his share of the capital outlay on the village.

The cost of building nowadays and scarcity of lodgings compels the factory owner to erect his works near "labour" quite apart from the fact that when the factory is up he is again dependent on the proximity of "labour." It is obvious, therefore, that new factories must follow and adjoin the new housing colonies. Consider the question of rates; it is well known what a welcome addition to the income of the local authority is caused by the advent of the factory and machinery. In some districts the local surveyor calculates that every new house for the working classes causes an additional fraction on the rates, and that it is only by the factory assessments that the rates can remain at a practical figure. For the above reasons I do therefore most strongly urge that space for the "position of the factory" should be planned, considered and allowed for in the proximity of new housing schemes and advertised. If this is not done, I fear that when the "whim" on the part of the large factory owner occurs, and it surely will, it will then be too late to consider the amenities and general planning of the neighbourhood. In the meantime the inmates of the new colony passing through other areas to their daily work will further congest our railways and transport facilities.

The second point I wish to make is in reference to

#### *Economical Tendering.*

The Housing Commissioner tells us that "the high tenders now being received make it for the time being necessary to reduce the dimensions of the houses to the lowest possible terms consistent with efficient housekeeping." Sir Tudor Walters' speech in the House last Monday evening, 1st December, gives reasons for the above, which must be considered most seriously by our profession, and in view of our President's appeal, coupled with one's experiences in daily practice, it is obvious that unless these high tenders are reduced to economical tendering the consequences will be very serious.

My opinion, shared, I think, by many members, is that the houses are put out to tender for contracts of such large sums that the small builders are not in a position to compete; if they do, large sums for plant, increase of staff, etc., are added on to the tenders in order to allow for the risks undertaken, and also for transport of labour. When we see advertisements in the papers of a southern county asking for mechanics to proceed to the Midlands on housing schemes, thus causing further housing scarcity, I think it is time a halt should be called, and the position reconsidered.

The only way to procure reasonable tenders is, I submit, by way of decentralisation of the architect and the builder by splitting up many of the contracts into smaller dimensions, even down to the limit of one pair of cottages.

There is a very great gain by having one Chief Architect in charge of a district scheme, say, of 500 houses, owing to the preliminary town planning and general arrangements with the authorities and the Ministry, but when it comes to the placing of the contract for even a tenth part of his scheme, enormous difficulties arise, whereas if the Chief Architect split his work among all members of his profession in the district, who each have their own following of small builders ready and anxious to give reasonable tenders to those for whom they are accustomed to tender, I contend that the whole state of affairs would be radically altered.

One has only to compare the number of houses in these schemes together with the number of Architects who are without any housing work whatever (including those recently demobilised) to understand some of the reasons for the want of success in obtaining economical tenders. Thousands of houses are to be built, and hundreds of builders ready to economically carry out the work for their customary Architects, provided the contracts are split into reasonably small amounts.

I therefore ask all Chief Architects to consider whether it would not be the best policy to offer a few of their houses to their professional brethren who may be in a position to do the work, and who would carry out the business with the Chief Architect as their client. There is plenty of scope for the large contractor without his journeying so far afield as appears to be the present situation, with the unfortunate result of upsetting all the local labour conditions, as well as causing great scarcity of lodging accommodation. As it is, we see in some cases, where the local builders are not put in a position to tender, either no tenders at all, or very high tenders from large contractors whose works and labour are situated perhaps in the next county or still further away. I submit, therefore, that further distribution of the housing work amongst Architects as a whole, and this particularly refers to London and surrounding counties, would be most beneficial, and be the means of enabling many of the smaller builders to take a part in presenting economical tenders.



In London and neighbourhood there appear to be approximately 1,500 Architects, say, 600 firms, and if all these firms were available to carry out the 60,000 houses estimated to be required, each firm would have contracts of £80,000 to offer to builders! When one goes even into such approximate figures, the magnitude of the problem is realised, and one can see what enormous quantities of labour and material are required, and I suggest that unless every firm of Architects lends a hand to push the scheme, the majority of these houses will not be erected in our time. The amount of private work, apart from luxury building, is increasing so rapidly with new factories, shop premises, large engineering schemes, etc., etc., that there will be, I think, enormous competition to get labour and material next year. This year's contracts have been difficult enough, what will they be like next year when the houses commence?

I should like to add a disclaimer as to any personal ambition to have the task of obtaining economical tenders for £80,000 worth of houses. My letter has been prompted by difficulties with factory erection in the eastern counties and Midlands this year, coupled with the fact that none of my recently demobilised friends in the profession seem to have a single Cottage Commission between them, and I believe there are others. Next year, when they are full up with private work, I fear it will be too late to offer them cottages, but perhaps by that time the battle between private building and State building may be settled once for all.—Yours faithfully,

NORMAN O. SEARLE [A.]

#### Dividing the Profession.

13 Dec. 1919.

To the Editor, JOURNAL R.I.B.A.,—

SIR,—The wholesale blackballing of 62 candidates for the Associateship last June left the Council no course but to take effective means to set that matter right. I doubt the wisdom of the method adopted for its rectification; and, anyhow, the meeting held on the 1st December was not an eminent success, although the suspension of By-laws 10 and 11 was carried by more than five to one. I twice rose to take part in the discussion, but did not insist, so gave way to others, being more anxious to listen than to hear myself speak. I was not alone also in refraining from taking part in the voting. I did not vote because of a doubt as to the necessity of suspending the By-laws to meet the case, and I also felt that some of the names in the June list should not have been included. As a matter of fact, without consulting anyone, I helped to blackball all the candidates who had failed to come forward for their Final Examination who had qualified in the "Intermediate" before 1909. I was not aware of the local concerted action in Sheffield and Liverpool about which so much was said at the Special General Meeting at Conduit Street on 1st December. In so far as the out-of-date lists can be quoted, the members in these two important centres, Fellows and

Associates, all told only count about fifty individuals, a somewhat insignificant minority.

The purpose of this letter is to add what I intended to refer to at the meeting; but it is not so much concerned with this transitory question as to concessions consequent upon the war or in regard to the failure of the June election of Associates. I point to the chronic failure on the part of the Associates, who, as a class, do not recognise their personal obligations to the Institute, seeing that only so few seek the distinction of the Fellowship. Instead of adding their weight and support, enriching the Society by superior ability and augmented income, not a few fully qualified Associates in lucrative architectural practice, and men well able to pay the higher subscription, rest content to remain Associates. This is unfair and unfortunate. But not infrequently these gentlemen are the very foremost to complain because the constitution denies them the full power of voting on By-law and other questions, also they are ready enough to charge the Council with trying to divide the ranks of the profession.

This brings me to even a more serious subject still, because, of all matters calculated to split up the architectural profession, the founding of an association to further the interests of salaried architects in defiance of the welfare of architects in private practice is most likely to disrupt the general harmony of the Institute. Prior to our Special General Meeting on 1st December, a gathering took place with this end in view; and those who came red-handed to Conduit Street from that assembly to vote against the Council and the policy of giving war concessions to Associate candidates glibly spoke about the terrible risk of dividing the profession's ranks throughout the Empire by suspending *pro tem.* the By-laws 10 and 11. These objectors had helped to found a most one-sided professional society of so-called "Qualified Architects" without any guarantee that only candidates who have passed an examination equal to that qualifying for the R.I.B.A. Associateship shall be elected. Anything more inconsistent can hardly be conceived.

I am not objecting to organisation. It is the only way to advance and prosper. My point is that loyalty to the *alma mater* imposes definite duties and obligations. Has the Institute declined to further the interest of its members as a whole, or is it attacked because a certain section wish to prosper to the disadvantage of the remainder?

MAURICE B. ADAMS [F.].

#### Books Received.

- THE CALIPH'S DESIGN. Architects! Where is your Vortex? By Wyndham Lewis. 8s. Lond. 1919. 3s. net. [The Egoist, Ltd., 23 Adelphi Terrace House, 2 Robert Street, W.C.2.]
- INDUSTRIAL HOUSING DEVELOPMENTS IN AMERICA: A Development of Group Houses. By Lawrence Veiller. 2nd edition. 40s. New York 1919. 25 cents. [National Housing Association Publications, 105 East 22nd Street, New York City.]
- ARCHITECTURE AND SCULPTURE IN MYSORE. II. The Kesava Temple at Belur. By R. Narasimhachar, M.A., Director of Archaeological Researches in Mysore. 4s. Bangalore 1919. 7s. 6d. [Curator, Government Book Depot, Bangalore.]



9 CONDUIT STREET, LONDON, W., 20th December 1919.

## CHRONICLE.

### Proposed Suspension of By-laws.

At the Special General Meeting on 1st December it was stated that some members had received their notices for the meeting *less* than seven clear days in advance as required by the By-laws. On enquiry being made, it appeared that a few copies of the JOURNAL containing the notice had not been posted by the printers at the proper time owing to the difficulty of getting men to work overtime at the week-end. The by-law has, therefore, been technically violated, and to put the matter right the Council have decided to summon a further Special General Meeting the date of which will be announced later. Meanwhile the President's letter dealing with the matter from the Council's point of view, and a summary of the debate at the Meeting of the 1st December, are before members in the last number of the JOURNAL, pp. 60 to 63.

### How to Save Coal.

The following letter has been addressed from the Institute to the Editors of the daily and weekly press of the country:—

SIR,—The high cost of Coal and the necessity for conserving the country's supplies make it incumbent upon everyone to economise in its consumption. The Council of the Royal Institute of British Architects venture therefore to draw the attention of the public to a means at once simple and effective of achieving this end. A large proportion of our people live in houses still fitted with fire-grates which consume great quantities of coal without giving the consumer anything approaching the full benefits of its combustion. Such people are advised that

Coal can be saved,

Rooms be heated at less cost,

The atmosphere of our great cities be brightened, and

A considerable saving of money be effected

by the following simple means:—

Line your grates with firebricks. See that the firebricks are high enough to stand up above the fire. Take care that the back brick leans forward and is not more than four inches from the front bars. Fill in the space at the back with fire-clay. See that your register is open not more than one-fourth of its full capacity. If you have no register, partially close the chimney opening with another fire-brick. Fill in the front space beneath the grate with a movable piece of metal. If you cannot do this, put a small firetile in the bottom of the grate.

If these directions are carefully followed the consumer will help the Nation to save coal, to lessen transport, to leave larger quantities available for export, and therefore incidentally to reduce taxation.

Your obedient Servant,

IAN MACALISTER, *Secretary.*

### The Birmingham A.A. and the President R.I.B.A.

The following Resolution was passed at a General Meeting of the Birmingham Architectural Association on Friday, the 5th December:—

"That this Meeting of the Birmingham Architectural Association hears with the deepest regret of the indisposition of the President of the Institute, and desires to express the sincere hope that the complete rest and treatment he is about to undergo will speedily restore him to health, so that the Institute and its Allied Societies may again have the benefit of his guidance and energy in the direction of its affairs. The Meeting also desires to acknowledge with sincere thanks the President's kind wishes for the success and prosperity of the Birmingham Architectural Association."

The President has expressed his acknowledgments in the following letter addressed to Mr. Herbert Buckland [F.], President of the Birmingham Association:—

DEAR MR. BUCKLAND,—I am most grateful to you for your kind letter and good wishes. Will you still further oblige me by informing your members how deeply I am touched by their Resolution, and how sensible I am of the kindly and loyal feelings which inspired it.

It is perhaps easy for generous minds to do such things, but it is a very great and significant thing to *think* of them; and I regard your Resolution as a symbol of that unity in the profession of our great Art which will render us invincible in our efforts to advance its interests.—Believe me, dear Mr. Buckland, gratefully and sincerely yours,

JOHN W. SIMPSON.

### Exhibition of the Zeebrugge Memorial Competition Designs.

The private view of the models and drawings exhibited in this Competition, took place on the 16th inst. in the Maddox Street Galleries, which have been lent for the Exhibition by the R.I.B.A. A number of distinguished visitors were present, including the Rt. Hon. Herbert Samuel, M.P., Monsieur Herry (of the Belgian Embassy), Mr. Ernest Newton, R.A., Sir George Frampton, R.A., Sir Cecil Hertslet, Mr. Algernon Maudsley, O.B.E., Admiral Dampier, Lady and Hon. Miss Dorothy Emmot, The Lady Swaythling, Sir James Agg-Gardner, M.P., Sir Isidore Spielmann, Miss Anna Alma-Tadema, Miss Emily Paterson, R.S.W., Sir Reginald and Lady Blomfield, R.A., Admiral Sir Edmund Freemantle, G.C.B., Mr. L. R. Farnell, Rector of Exeter College, Oxford, &c.

The Exhibition will be open free of charge from Wednesday, 17th December, to Wednesday, 24th December, and from Monday, 29th December, to Saturday, 3rd January, 1920, from 10 a.m. to 5 p.m.

**A Public Amenities Committee for Bermondsey.**

A beautification and public amenities committee is to be appointed by the Bermondsey Borough Council. Among its duties will be the care and acquisition of open spaces, the planting of trees and shrubs in public streets, the improvement of waste spaces, the cultivation by agreement with landlords and tenants of forecourts and front gardens, the provision of boxes and plants for window gardens, and the promotion and encouragement of shows and competitions.

The provision of winter gardens and entertainments comes within the reference of the committee, which will also deal with the regulation of advertisements, the prevention of unsightly erections, refuse dumps, &c.

**National Housing Scheme : Concrete Construction.**

Sir J. Tudor Walters, answering a question addressed by Captain R. Terrell to the Minister of Health whether he was taking any action in respect of the proposals for the construction of concrete cottages which were being submitted to him, said : " An expert Committee appointed by me to consider and report on the questions of standardisation and methods of construction in house building have approved twenty-five different methods of building cottages in concrete, and I am urging local authorities to adopt concrete construction where suitable materials are available. Tenders for some 400 concrete houses have been approved by my Department, and a number of other proposals for the erection of concrete houses are included among the house plans approved, but which have not yet reached the stage of tenders."

**The Premier on the Condition of the Building Industry.**

Mr. Lloyd George, addressing a special conference of representatives of the Building Trades Industrial Council on the 16th inst., said that he hoped it would be possible after the 1st January to revert to the normal course of business, so that building materials should be available through the ordinary trade channels. The sternest vigilance is being exercised to prevent profiteering in materials, and full advantage will be taken of the Profiteering Act. Speaking of house-building : of the five things essential—viz., sites, cash, material, transport and labour—the determining factor, labour, presented the greatest difficulty, owing to the shortage of men in the industry. There were some 300,000 fewer than before the war. Then, as to the output per man : though an improvement was being effected, the output was appreciably below pre-War days. It was not a question of being exploited for undue profit ; the federated builders were doing their best to fix a moderate rate of profit for which their members should be advised to work. He asked employers and workmen to facilitate the introduction of additional labour into the industry, and also improved methods of production. He appealed to the great and small builders to take their fair share of cottage building. Luxury building must be discouraged until the housing difficulties are met.

**The Protection of Old Cottages.**

In an article under the above heading in *Housing* for the 8th December, Mr. Ernest Newton, R.A. [F.], Hon. Consulting Architect to the Ministry of Health, writes :—

If anyone were asked what was one of the most characteristic features of England he would answer, without hesitation, its country towns and villages. Arranged, as they are, apparently without any very definite plan, the whole effect is homely and pleasant. Every building almost has its strongly-marked individual character ; this character is always unobtrusive, and the whole forms a blend which it would be impossible to match anywhere else in the world. Here and there a modern building, ignorantly designed and unskillfully built, thrusts itself into notice, but serves only as a foil to its neighbours, and is mercifully absorbed in the general mass. Not only are these towns and villages satisfying to the eye and soothing to the mind, but they constitute also a record of the lives of those who built them. The history of a nation is inevitably written in its architecture, in the cottage as well as in the church and great house, and to those who have eyes to see, these buildings tell the story of the sturdy life of England for centuries. There is no doubt that the subtle charm of the English village, with its church surrounded by the graves of bygone ancestors of all ranks of life, exerts an unconscious influence on all those who live in it, an influence which deepens the affection for an England which is worth living in and dying for. How often did the thoughts of the men in the trenches turn to their own particular village, their own special dwelling ; and stiffen them into a resolve to do and dare everything to guard their country and their homes from the invader!

Unfortunately, although these old buildings were, for the most part, honestly and soundly built by men who knew and loved their craft, advantage has been taken of their apparent indestructibility to leave them without any adequate repair for many years, and in the English climate no building, if neglected, will last for ever. The first part to give way is the roof covering, and water, the greatest foe to buildings next to fire, begins its deadly work. Ceilings fall, rafters and flooring rot, the building soon ceases to be habitable, looks disreputable, is finally condemned to destruction and disappears, and with it disappears a page of precious history.

Now, in the majority of cases this destruction is not only unnecessary, but criminally wasteful. It is not contended that every dilapidated cottage can be repaired, but it must be a very desperate case that will not yield to skilful and experienced treatment. When a building has reached the disreputable stage described above, the Health Officer is almost bound to condemn it, as he is not, of course, technically qualified to say whether it can be repaired or not ; his concern is mainly with the health of its inhabitants. I would appeal to all Local Authorities in districts where there are buildings of this description not to be in too great haste to call in the executioner, but, before condemning them to destruction, to seek the advice of those skilled in the treatment of buildings that to the untrained eye have lived their life and seem to cry aloud for removal. Of course, a certain number will be found to be past repair, and it would not be possible economically to attempt to do anything to them unless they were of very special architectural value ; but so long as the walls and foundations are sound no building is past repair. With skill and experience the bulk of these houses can be made dry, sweet, clean and healthy dwellings at a far less outlay than would be required to build new ones. Apart altogether from aesthetic considerations, it is both practical and economical to snatch old cottages from destruction and so repair them that at a small outlay they become habitable again without destroying in any way their character or history.

The Ministry will be glad to advise any local authorities

who are uncertain whether cottages, which in their present state have to be condemned, cannot be economically altered so as to bring them up to the required standard.

#### British School at Athens: Libri Desiderati.

The Director and Librarian in Athens are most anxious, in the national as well as in the learned interest, that the Library of the School should be a worthy epitome of British Scholarship. From time to time, however, works appear that are quite beyond the ordinary resources of the School, and are yet essential to this purpose. They venture therefore to submit the following list of books to the munificence of friends of the School:—

*The Dictionary of National Biography.*  
*The Encyclopædia Britannica* (latest edition).  
*Hakluyt's Voyages.*  
*The Loeb Classical Library.*  
*Scriptorum Classicorum Bibliotheca Gronovensis.*  
*Smith and Sibthorp, Flora Græca.*

Among other lacunæ are:—

British School at Rome: *Catalogue of the Capitoline Museum.* Ed. H. Stuart Jones. 8vo and 4to. Clarendon Press, 1912.  
 Cook, A.B.: *Zeus: a Study in Ancient Religion.* 8vo. Cambridge, 1914.  
 Czapliska (M.A.): *Turks of Central Asia in History and at the Present Day.* 8vo. Clarendon Press, 1919.  
 Dawkins, R.M.: *Modern Greek in Asia Minor.* 8vo. Cambridge Press, 1916.  
 Lang, A.: *Homer and His Age.* 8vo. Longmans Green & Co., 1906.  
 Leaf, W.: *Companion to the Iliad.* 8vo. Macmillan, 1892.  
 Miller, W.: *History of Ottoman Empire.* 8vo. Cambridge, 1903.  
 Pumpelly: *Explorations in W. Turkestan.* 1905, 1908.

Address for sending:—The Secretary, British School at Athens, 19, Bloomsbury Square, W.C.1, who will gratefully acknowledge any books sent.

#### Victoria and Albert Museum.

A number of important examples of English furniture and woodwork have recently been acquired by gift as well as by purchase. Among the chief gifts is a chair of the time of Charles II., selected by Sir George Donaldson from his museum at Hove. Another important gift was made by Mr. Thomas Sutton of a fine collection of English tea caddies brought together during the past thirty years by the late Mrs. Sutton. The furniture acquired by purchase includes a mahogany chest-of-drawers in the manner of Chippendale, a Charles II. walnut cabinet on stand, a miniature bureau or writing cabinet of the time of Queen Anne, and an Elizabethan armchair.

### ALLIED SOCIETIES.

#### Birmingham Architectural Association.

The third general meeting of the session was held at the Association's rooms, Royal Society of Artists' Buildings, New Street, Birmingham, on Friday, 5th inst., when the President, Mr. H. T. Buckland, F.R.I.B.A., gave his Presidential address. There were 52 members present. In the course of his address Mr. Buckland referred to the attitude of the City Council towards the profession on housing

problems. "It seems to me deplorable," he said, "that a city which has educated a large number of architects at its School of Art, many of them men of recognised ability, should not give recognition to men on their return from the war. This is a time of exceptional difficulties both in the architectural profession and in the building trades. We have offered our services. The necessary work in connection with house-planning and laying out of areas is being done by a Corporation department, and beyond the possibility of entering the few competitions, the architects are receiving no help."

During the war, Mr. Buckland said, the Association formed committees to assist needy members. The effort did not meet with all the support that was expected. When housing schemes were maturing the Association approached the Council through the Housing Committee, but the only encouragement given was the opportunity of competing for plans for the Pineapple Estate.

With regard to the Civic Society, Mr. Buckland said it was formed largely on the suggestion of Councillor George Cadbury, jun., and Mr. George Talbot. It could have been regarded as an advisory committee to help the Council on matters of planning and laying out new areas. He regretted that the City Council had not made the use of that society which it might have done, and which would have been to the city's distinct advantage.

### THE STORMING OF ZEEBRUGGE.

#### An Appeal by the Anglo-Belgian Union.

The storming of Zeebrugge and the blocking of the Canal is perhaps one of the finest deeds in naval history. This action was distinct from the ordinary activities of the Dover Patrol to whose splendid and untiring services monuments are already being erected.

Before an attack of this sort can be launched there must be much careful preparation in closest detail, much anxious thought, but without the noble gallantry of those to whom the task is allotted, no plans, however well laid, can succeed, and when the news was told the whole world was thrilled by the glory of the deed. The result was to render the submarine base useless at a most critical time, and not only relieve us of a terrible danger, but put new heart into the people of Belgium who, cut off from authentic news, were cheered by a deed which no German censorship could conceal.

The Anglo-Belgian Union, desiring to commemorate for all time this heroic deed, decided to promote a competition for a Memorial worthy of this great achievement. Their desire was to erect a Memorial commemorating the glory of the action rather than a monument of mourning for the noble men who gave their lives in carrying it out. This Competition has now been held\* and the first place awarded to a design which in the opinion of the Committee worthily commemorates this sublime action, and an appeal is now being made for funds with which to carry out the work.

The site has been generously presented and there is nothing to prevent the work being started as soon as the money is subscribed.

\* See note on the Exhibition of the Designs, p. 88.



No one with a spark of imagination can fail to have his feelings stirred by the history of the storming of Zeebrugge, and the Committee is confident that notwithstanding the numerous Appeals that have been made for other objects there will be a generous response to an Appeal for the erection on Belgian soil of a Monument which commemorates a glorious and daring British achievement.

## COMPETITIONS.

### Bridgwater Housing Competition.

The Competitions Committee of the Royal Institute of British Architects requests Members and Licentiates to refrain from taking part in the above competition, the conditions not being in conformity with the Institute Regulations for Architectural Competitions. The Committee is in communication with the promoters of the competition with a view to the amendment of the conditions.

IAN MACALISTER, *Secretary.*

## THE EXAMINATIONS.

### The Final: Alternative Problems in Design.

#### Instructions to Candidates.

1. The drawings, which should preferably be on uniform sheets of paper of not less than Imperial size, must be sent to the Secretary of the Board of Architectural Education, Royal Institute of British Architects, 9 Conduit Street, W., on or before the dates specified below.

2. Each set of drawings must be signed by the author, AND HIS FULL NAME AND ADDRESS, and the name of the school, if any, in which the drawings have been prepared must be attached thereto.

3. All designs, whether done in a school or not, must be accompanied by a declaration from the Student that the design is his own work and that the drawings have been wholly executed by him. In the preparation of the design the Student may profit by advice.

4. Drawings for subjects (a) are to have the shadows projected at an angle of 45° in line, monochrome, or colour. Drawings in subjects (b) are to be finished as working drawings. Lettering on all drawings must be of a clear, scholarly, and unaffected character.

#### Subject XLIX.

(a) AN ELLIPTICAL GRAND STAIRCASE AND VESTIBULE IN A GENTLEMAN'S HOUSE.—The candidate is to indicate the rooms adjoining the staircase.

*Drawings.*— $\frac{1}{2}$ -inch scale: one plan and two sections.

(b) A FACTORY ON AN ISLAND SITE OUTSIDE THE LONDON AREA.—Building to be 100 feet square and have six floors, the top floor to carry machinery (4 cwt. persq. foot). The whole to be fireproof.

*Drawings.*— $\frac{1}{2}$ -inch scale: plan, elevation and sections.  $\frac{1}{2}$ -inch sectional detail.

#### Subject L.

(a) A TOWN CHURCH TO SEAT 800 PERSONS.—Material, ferro-concrete. Cornersite.

*Drawings.*— $\frac{1}{2}$ -inch scale: plan, section and two elevations.  $\frac{1}{2}$ -inch detail.

(b) A DAIRY FARM FOR 100 COWS: WITH BAILIFF'S HOUSE.

*Drawings.*— $\frac{1}{2}$ -inch scale: plan, sections and two elevations.

#### Subject LI.

(a) A MEMORIAL "OPEN ACCESS" LIBRARY ON CORNER SITE.—70 feet square. Rooms: newspaper, reading, magazine, reference library. Small museum, small lecture room. Stock room in basement.

*Drawings.*— $\frac{1}{2}$ -inch scale: plans, elevations and two sections.  $\frac{1}{2}$ -inch detail.

(b) A PERMANENT CANTEN FOR A WORKS, WITH SIMULTANEOUS SEATING ACCOMMODATION FOR 600 MEN AND 600 WOMEN. No waiting.

Rooms: rest and smoking rooms. Kitchen and all necessary offices. Lavatory accommodation for kitchen staff. Manager's office.

*Drawings.*— $\frac{1}{2}$ -inch scale: plans, sections and elevations.

#### Dates for Submission of Designs in 1920.

	Subj. XLIX.	Subj. L.	Subj. LI.
United Kingdom	28th Feb.	30th April	30th June
Johannesburg	30th April	30th June	31st Aug.
Melbourne	31st May	31st July	30th Sept.
Sydney	31st May	31st July	30th Sept.
Toronto	31st Mar.	31st May	31st July.

## MINUTES. IV.

At the Fourth General Meeting (Ordinary) of the Session 1919-20, held Monday, 15th December, 1919, at 8 p.m.—Present: Mr. E. Guy Dawber, *Vice-President*, in the Chair, 24 Fellows (including 8 members of the Council), 23 Associates (including 2 members of the Council), 2 Licentiates, and several visitors—the Minutes of the Meeting held 1st December were taken as read and signed as correct.

Mr. Frederick Chatterton [F.] and Mr. James Guy Warwick [A.], attending for the first time since their election, were formally admitted by the Chairman.

The Hon. Secretary announced that Mr. St. Clair Baddeley had presented to the library a collection of 120 original drawings of the Palaces of Genoa done by the order and executed under the direction of Peter Paul Rubens.

A vote of thanks to Mr. Baddeley for his valuable gift was passed by acclamation.

The Secretary announced that the following candidates had been nominated for election:—

As FELLOWS (27): Ormrod Maxwell Ayrton [A., 1903]; Quentin Mangnall Bluhm [A., 1910], Preston; Walter Hargreaves Bourne [A., 1899], Saskatoon; Charles Geoffrey Bouteher [A., 1910], Kedah; Norman Gordon Bridgman [A., 1892], Paignton; Annesley Harold Brownrigg [A., 1908]; Henry John Chetwood [A., 1910]; Henry Gilbert Gamble [A., 1891], Lincoln; Thos. Francis Wiltshire Grant, M.C. [A., 1910]; William Courtenay Le Maitre [A., 1905]; Edward Brantwood Maufe, M.A. Oxon. [A., 1910]; Leslie Thomas Moore, M.C. [A., 1905]; Robert George Muir [A., 1912]; Basil Oliver [A., 1910]; Stanley Churchill Ramsey [A., 1906]; William Walter Scott-Monerieff, M.C. [A., 1912]; Alice Smithers [A., 1908]; Henry Spencer Walcott Stone [A., 1904], Taunton; Charles Hilbert Strange [A., 1891], Tunbridge Wells; Edwin James Tench [A., 1901], Norwich; Conrad Birdwood Willcocks [A., 1912], Reading; Frank Reginald Gould Wills [A., 1892]. And the following Licentiates who have passed the qualifying examination:—Arthur James Driver; Vincent Jerome Esch, Calcutta; Edmund Bertram Kirby, O.B.E., Liverpool; Henry Thos. Sandy, Stafford; Stephen Wilkinson, Calcutta.

Mr. Sydney Perks [F.], F.S.A., having read a paper on "LONDON TOWN PLANNING SCHEMES IN 1666," and shown several lantern illustrations, a discussion ensued, and on the motion of Professor S. D. Adshead [F.], seconded by Sir Banister Fletcher [F.], a vote of thanks was passed to him by acclamation.

Mr. Perks having responded, the proceedings closed and the meeting separated at 9.40.



## AN APPEAL FOR THE BLIND.

What does eyesight mean to an artist? Life! And supposing you who read these lines were suddenly to look up from the drawing in front of you to find that the curtain of physical darkness had suddenly descended across those windows of your mind that mean life to you! Would you not feel the most unutterable despair?

And yet there are thousands of men and women in this country who have all the cravings, all the longings of the artist's soul, who are shut out for ever from the simple things that mean so much to you every day. The man who is suddenly deprived of sight has to be equipped to face a new world, a world in which fingers and ears take the place of eyes, to begin all over again and cultivate to the full those senses which are to take the place of his vision.

Here then is a cause that surely needs no bolstering up with fine phrases or studied eloquence. The National Institute for the Blind is also a great College of Light. It helps a blind man in a thousand ways to equip himself anew, to become a useful and happy citizen: it is by far the biggest producer of embossed literature in the world; it teaches the blind in their own homes; it is responsible for the after-care of the soldiers and sailors blinded in the great war; it pays out large sums of money to the necessitous blind; it is alive to all the needs of the higher education of the blind; it has a Home for little Blind Babies; it is responsible for a hostel for blind women workers—the list might be prolonged if space would allow.

With confidence then we appeal to you, without fear and without shame, for the possession of a privilege must assuredly entail as well the possession of a gratitude which can best be expressed by practical sympathy and co-operation. Will you not, therefore, send a donation, no matter how small, to the Secretary, Metropolitan Branch of the National Institute for the Blind, 224-6-8, Great Portland Street, London, W.1?

ARTHUR PEARSON,

*President & Hon. Treasurer.*

4 Dec. 1919.

## Appointments.

Mr. Percival Monckton [F.] has been appointed Surveyor to the Commission of Lieutenancy for the City of London.

Mr. W. S. Purchon, M.A. [J.L.], who is a member of the Board of Architectural Education and has been Lecturer in the Department of Architecture at Sheffield University for the past ten years, has been appointed Lecturer in Architecture and Civic Design at the Technical College, Cardiff.

Mr. H. D. Seales-Wood [F.] and Mr. Herbert Buckland [F.] have been appointed to represent the R.I.B.A. at the Royal Sanitary Institute's Congress at Birmingham, July 19th-24th, 1920.

## Professional Notice.

A partnership has been entered into between Mr. Albert Schofield, of Southport, and Mr. F. Morrall Maddox [J.L.], of Stoke-on-Trent. The practice will be carried on under the style of Messrs. Schofield & Maddox, Architects, Queen's Chambers, Lord Street, Southport.

## Post Wanted.

**DRAUGHTSMAN.**—Young man recently demobilised is anxious to obtain post with Architect or Engineer, with a view to training as Draughtsman. No previous experience, but natural aptitude for drawing. Excellent Army and previous business record.—Address Secretary R.I.B.A.

## NOTICES.

## Business Meeting, 5th January, 1920.

The FIFTH GENERAL MEETING (Business) of the Session 1919-20 will be held Monday, 5th January, 1920, at 8 p.m., for the following purposes:—

To read the Minutes of the Meeting held 15th December, 1919; formally to admit members attending for the first time since their election.

To proceed with the election of the following candidates for Fellowship:—

## AS FELLOWS (27).

- AVRTON: ORMROD MAXWELL [J.L. 1903], 3 Verulam Buildings, Gray's Inn, W.C.1; 9 Church Row, Hampstead.
- BLUM: QUESTIN MANGNALL [J.L. 1910], Victoria Chambers, Fishergate, Preston; and Whitecote, Devonshire Road, St. Anne's-on-the-Sea, Lanes.
- BOURNE: WALTER HARGREAVES [J.L. 1899], 303 Canada Buildings, Saskatoon, Canada.
- BOUTCHER: CHARLES GEOFFREY [J.L. 1910], Alor Star, Kedah, Malay Peninsula.
- BRIDGMAN: NORMAN GEORGE [J.L. 1892], 1 Palace Avenue, and "Carlyon," Cadwell Road, Paignton.
- BROWNRIGG: ANNESLEY HAROLD [J.L. 1908], 69 Chancery Lane, E.C.1; and The White House, Milford, Surrey.
- CHETWOOD: HENRY JOHN [J.L. 1910], 5 Bedford Row, W.C.1; and Brook House, Bishops Stortford.
- GAMBLE: HENRY GILBERT [J.L. 1891], Bank Street Chambers, Lincoln; and "Budleigh," The Grove, Lincoln.
- GRANT: THOS. FRANCIS WILTSHIRE, M.C. [J.L. 1910], 11 Buckingham Street, W.C.2; and 148 High Street, Kensington.
- LE MAITRE: WILLIAM COURTENAY [J.L. 1905], 63 Finsbury Pavement, E.C.1; and 58 Palace Court, W.
- MAUFE: EDWARD BRANTWOOD, M.A.Oxon. [J.L. 1910], 3 Raymond Buildings, W.C.1; and 139 Church Street, Chelsea, S.W.3.
- MOORE: LESLIE THOMAS, M.C. [J.L. 1905], 3 Raymond Buildings, W.C.1; and 3 Squires Mount, Hampstead.
- MUIR: ROBERT GEORGE [J.L. 1912], Gerrards Cross, Bucks; and 15 Elers Road, Ealing, W.13.
- OLIVER: BASIL [J.L. 1910], 7 Southampton Street, Bloomsbury, W.C.1; and 148 Kensington High Street, W.8.
- RAMSEY: STANLEY CHURCHILL [J.L. 1906], 46 Great Russell Street, W.C.1; and "Helmsdale," Kempton, Surrey.
- SCOTT-MONCRIEFF: WILLIAM WALTER, M.C. [J.L. 1912], 11 Gray's Inn Place, and 13 Hart Street, W.C.1.
- SMITHERS: ALEC [J.L. 1908], Skinners' Hall, 9 Dowgate Hill, E.C.1; and the Manse, Bishops Stortford, Herts.
- STONE: HENRY SPENCER WILCOTT [J.L. 1904], 54 North Street, and Kingswood, Staplegrave, Taunton.
- STRANGE: CHARLES HILBERT [J.L. 1891], 20 Dudley Road, Tunbridge Wells.
- TENCH: EDWIN JAMES [J.L. 1901], 15 Court Chambers, The Walk, Norwich; and Riverside Road, Norwich.
- WILCOCKS: CONRAD BIRDWOOD [J.L. 1912], 11 Friar Street; and Willstead, Caversham Heights, Reading.
- WILLS: FRANK REGINALD GOULD [J.L. 1892], 34 Finsbury Pavement, E.C.2; and 83 Badminton Road, S.W.12.
- And the following Licentiates who have passed the qualifying examination:—
- DRIVER: ARTHUR JAMES, Surveyor's Office, Grocers' Hall, Princes Street, E.C.2; and 8 Trafalgar Square, S.W.3.
- ESCH: VINCENT JEROME, Architect-in-Charge, Victoria Memorial, Calcutta.
- KIRBY: EDMUND BERTRAM, O.B.E., 5 Cook Street, Liverpool; and Overdale, Oxtou, Birkenhead.
- SANDY: HENRY THOS., 22 Greengate, Stafford; 71 Temple Row, Birmingham; 9 Albert Square, Manchester.
- WILKINSON: STEPHEN, Standard Buildings, Dalhousie Square, Calcutta; and Lingdale, Bournemouth.

